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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:

David T. Scadden, et al.

Serial No.

Not Yet Assigned November 1, 2001

Filed: For:

THE CaR RECEPTOR AS A MEDIATOR OF MIGRATORY CELL

CHEMOTAXIS AND/OR CHEMOKINESIS

Examiner:

Not Yet Assigned

Art Unit:

Not Yet Assigned

BOX PATENT APPLICATION COMMISSIONER FOR PATENTS WASHINGTON, D.C. 20231

Sir:

STATEMENT PURSUANT TO 37 C.F.R. §1.821(f)

This statement is made pursuant to 37 C.F.R. §1.821(f). Applicants enclose herewith an original written copy of the Sequence Listing and a computer readable diskette. Applicants' representative states that the information recorded in the computer readable form is identical to the written Sequence Listing and that the Sequence Listing contains no new matter.

Respectfully submitted,

Konstantinos Andrikopoulos

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Attorney's Doc. No.: M0765/7038 (ERG/KA)

November 1, 2001

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SEQUENCE LISTING

| <110> | Scadden, David T. Poznansky, Mark C. Olszak, Ivona T. Brown, Edward M. | | | | | | | | | | | | | | |
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| <120> | THE CAR RECEPTOR AS A MEDIATOR OF MIGRATORY CELL CHEMOTAXIS AND/OR CHEMOKINESIS | | | | | | | | | | | | | | |
| <130> | M0765/7038/ERG/KA | | | | | | | | | | | | | | |
| | PCT/US00/15440 2000-06-02 | | | | | | | | | | | | | | |
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| <211> <212> | <210> 1 <211> 3361 <212> DNA <213> Homo sapiens | | | | | | | | | | | | | | |
| <223> | CDS (29)(3262) Ca-sensing Receptor | | | | | | | | | | | | | | |
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| | gca ctc acc tgg cac acc tct gcc tac ggg cca gac cag Ala Leu Thr Trp His Thr Ser Ala Tyr Gly Pro Asp Gln 15 20 | | | | | | | | | | | | | | |
| cga gcc caa Arg Ala Gln 25 | aag aag ggg gac att atc ctt ggg ggg ctc ttt cct att Lys Lys Gly Asp Ile Ile Leu Gly Gly Leu Phe Pro Ile 30 35 40 | | | | | | | | | | | | | | |
| | gta gca gct aaa gat caa gat ctc aaa tca agg ccg gag Val Ala Ala Lys Asp Gln Asp Leu Lys Ser Arg Pro Glu 45 50 55 | | | | | | | | | | | | | | |
| | tgt atc agg tat aat ttc cgt ggg ttt cgc tgg tta cag Cys Ile Arg Tyr Asn Phe Arg Gly Phe Arg Trp Leu Gln 60 65 70 | | | | | | | | | | | | | | |
| | ttt gcc ata gag gag ata aac agc agc cca gcc ctt ctt Phe Ala Ile Glu Glu Ile Asn Ser Ser Pro Ala Leu Leu 80 85 | | | | | | | | | | | | | | |
| | acg ctg gga tac agg ata ttt gac act tgc aac acc gtt Thr Leu Gly Tyr Arg Ile Phe Asp Thr Cys Asn Thr Val 95 100 | | | | | | | | | | | | | | |
| | ttg gaa gcc acc ctg agt ttt gtt gct caa aac aaa att Leu Glu Ala Thr Leu Ser Phe Val Ala Gln Asn Lys Ile 110 115 120 | | | | | | | | | | | | | | |

| gat Asp | tct Ser | ttg Leu | aac Asn | ctt Leu 125 | Asp | gag Glu | ttc Phe | tgc Cys | aac Asn 130 | Cys | tca Ser | gag Glu | cac His | att Ile 135 | ccc Pro | 436 |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| tct Ser | acg Thr | att Ile | gct Ala 140 | Val | gtg Val | gga Gly | gca Ala | act Thr 145 | ggc Gly | tca Ser | ggc | gtc Val | ser Ser 150 | Thr | gca Ala | 484 |
| gtg Val | gca Ala | aat Asn 155 | Leu | ctg Leu | Gly | ctc Leu | ttc Phe 160 | Tyr | att Ile | ccc Pro | cag Gln | gtc Val 165 | Ser | tat Tyr | gcc Ala | 532 |
| tcc Ser | tcc Ser 170 | agc Ser | aga Arg | ctc Leu | ctc Leu | agc Ser 175 | aac Asn | aag Lys | aat Asn | caa Gln | ttc Phe 180 | aag Lys | tct Ser | ttc Phe | ctc Leu | 580 |
| cga Arg 185 | acc Thr | atc Ile | ccc Pro | aat Asn | gat Asp 190 | gag Glu | cac His | cag Gln | gcc Ala | act Thr 195 | gcc Ala | atg Met | gca Ala | gac Asp | atc Ile 200 | 628 |
| atc Ile | gag Glu | tat Tyr | ttc Phe | cgc Arg 205 | tgg Trp | aac Asn | tgg Trp | gtg Val | ggc Gly 210 | aca Thr | att Ile | gca Ala | gct Ala | gat Asp 215 | gac Asp | 676 |
| gac Asp | tat Tyr | ggg | cgg Arg 220 | ccg Pro | Gly | att Ile | gag Glu | aaa Lys 225 | ttc Phe | cga Arg | gag Glu | gaa Glu | gct Ala 230 | gag Glu | gaa Glu | 724 |
| agg Arg | gat Asp | atc Ile 235 | tgc Cys | atc Ile | gac Asp | ttc Phe | agt Ser 240 | gaa Glu | ctc Leu | atc Ile | tcc Ser | cag Gln 245 | tac Tyr | tct Ser | gat Asp | 772 |
| gag Glu | gag Glu 250 | gag Glu | atc Ile | cag Gln | cat His | gtg Val 255 | gta Val | gag Glu | gtg Val | att Ile | caa Gln 260 | aat Asn | tcc Ser | acg Thr | gcc Ala | 820 |
| aaa Lys 265 | gtc Val | atc Ile | gtg Val | gtt Val | ttc Phe 270 | tcc Ser | agt Ser | ggc Gly | cca Pro | gat Asp 275 | ctt Leu | gag Glu | ccc Pro | ctc Leu | atc Ile 280 | 868 |
| aag Lys | gag Glu | att Ile | gtc Val | cgg Arg 285 | cgc Arg | aat Asn | atc Ile | acg Thr | ggc Gly 290 | aag Lys | atc Ile | tgg Trp | ctg Leu | gcc Ala 295 | agc Ser | 916 |
| gag Glu | gcc Ala | tgg Trp | gcc Ala 300 | agc Ser | tcc Ser | tcc Ser | ctg Leu | atc Ile 305 | gcc Ala | atg Met | cct Pro | cag Gln | tac Tyr 310 | ttc Phe | cac His | 964 |
| gtg Val | gtt Val | ggc Gly 315 | ggc Gly | acc Thr | att Ile | gga Gly | ttc Phe 320 | gct Ala | ctg Leu | aag Lys | gct Ala | ggg Gly 325 | cag Gln | atc Ile | cca Pro | 1012 |
| ggc Gly | ttc Phe 330 | cgg Arg | gaa Glu | ttc Phe | ctg Leu | aag Lys 335 | aag Lys | gtc Val | cat His | ccc Pro | agg Arg 340 | aag Lys | tct Ser | gtc Val | cac His | 1060 |
| aat Asn 345 | ggt Gly | ttt Phe | gcc Ala | aag Lys | gag Glu 350 | ttt Phe | tgg Trp | gaa Glu | gaa Glu | aca Thr 355 | ttt Phe | aac Asn | tgc Cys | cac His | ctc Leu 360 | 1108 |
| caa | gaa | ggt | gca | aaa | gga | cct | tta | cct | gtg | gac | acc | ttt | ctg | aga | ggt | 1156 |

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| Glr | ı Glu | ı Gly | / Ala | Lys 365 | | Pro | Leu | ı Pro | -3- Val 370 | | Thr | Phe | Lev | a Arç 375 | g Gly | |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| cac His | gaa Glu | gaa Glu | agt Ser 380 | Gly | gac Asp | agg Arg | ttt Phe | ago Ser 385 | Asn | agc Ser | tcg Ser | aca Thr | gcc Ala 390 | Phe | cga Arg | 1204 |
| ccc Pro | ctc Leu | tgt Cys 395 | Thr | ggg | gat Asp | gag Glu | aac Asn 400 | Ile | agc Ser | agt Ser | gtc Val | gag Glu 405 | acc Thr | cct Pro | tac Tyr | 1252 |
| ata Ile | gat Asp 410 | Tyr | acg Thr | cat His | tta Leu | cgg Arg 415 | ata Ile | tcc Ser | tac Tyr | aat Asn | gtg Val 420 | Tyr | tta Leu | gca Ala | gtc Val | 1300 |
| tac Tyr 425 | Ser | att Ile | gcc Ala | cac His | gcc Ala 430 | ttg Leu | caa Gln | gat Asp | ata Ile | tat Tyr 435 | acc Thr | tgc Cys | tta Leu | cct Pro | ggg Gly 440 | 1348 |
| aga Arg | GJA aaa | ctc Leu | ttc Phe | acc Thr 445 | aat Asn | ggc Gly | tcc Ser | tgt Cys | gca Ala 450 | gac Asp | atc Ile | aag Lys | aaa Lys | gtt Val 455 | gag Glu | 1396 |
| gcg Ala | tgg Trp | cag Gln | gtc Val 460 | ctg Leu | aag Lys | cac His | cta Leu | cgg Arg 465 | cat His | cta Leu | aac Asn | ttt Phe | aca Thr 470 | aac Asn | aat Asn | 1444 |
| atg Met | ggg Gly | gag Glu 475 | cag Gln | gtg Val | acc Thr | ttt Phe | gat Asp 480 | gag Glu | tgt Cys | ggt Gly | gac Asp | ctg Leu 485 | gtg Val | ggg Gly | aac Asn | 1492 |
| tat Tyr | tcc Ser 490 | atc Ile | atc Ile | aac Asn | tgg Trp | cac His 495 | ctc Leu | tcc Ser | cca Pro | gag Glu | gat Asp 500 | ggc Gly | tcc Ser | atc Ile | gtg Val | 1540 |
| ttt Phe 505 | aag Lys | gaa Glu | gtc Val | Gly ggg | tat Tyr 510 | tac Tyr | aac Asn | gtc Val | tat Tyr | gcc Ala 515 | aag Lys | aag Lys | gga Gly | gaa Glu | aga Arg 520 | 1588 |
| ctc Leu | ttc Phe | atc Ile | aac Asn | gag Glu 525 | gag Glu | aaa Lys | atc Ile | ctg Leu | tgg Trp 530 | agt Ser | ggg Gly | ttc Phe | tcc Ser | agg Arg 535 | gag Glu | 1636 |
| gtg Val | ccc Pro | ttc Phe | tcc Ser 540 | aac Asn | tgc Cys | agc Ser | cga Arg | gac Asp 545 | tgc Cys | ctg Leu | gca Ala | ggg Gly | acc Thr 550 | agg Arg | aaa Lys | 1684 |
| gly ggg | atc Ile | att Ile 555 | gag Glu | GJ À aaa | gag Glu | ccc Pro | acc Thr 560 | tgc Cys | tgc Cys | ttt Phe | gag Glu | tgt Cys 565 | gtg Val | gag Glu | tgt Cys | 1732 |
| cct Pro | gat Asp 570 | GJ Å aaa | gag Glu | tat Tyr | agt Ser | gat Asp 575 | gag Glu | aca Thr | gat Asp | gcc Ala | agt Ser 580 | gcc Ala | tgt Cys | aac Asn | aag Lys | 1780 |
| tgc Cys 585 | cca Pro | gat Asp | gac Asp | ttc Phe | tgg Trp 590 | tcc Ser | aat Asn | gag Glu | aac Asn | cac His 595 | acc Thr | tcc Ser | tgc Cys | att Ile | gcc Ala 600 | 1828 |
| aag Lys | gag Glu | atc Ile | gag Glu | ttt Phe 605 | ctg Leu | tcg Ser | tgg Trp | Thr | gag Glu 610 | ccc Pro | ttt Phe | Gly | atc Ile | gca Ala 615 | ctc Leu | 1876 |

| acc Thr | ctc Leu | ttt Phe | gcc Ala 620 | gtg Val | ctg Leu | ggc | att Ile | ttc Phe 625 | ctg Leu | aca Thr | gcc Ala | ttt Phe | gtg Val 630 | Leu | ggt Gly | 1924 |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| gtg Val | ttt Phe | atc Ile 635 | aag Lys | ttc Phe | cgc Arg | aac Asn | aca Thr 640 | ccc Pro | att Ile | gtc Val | aag Lys | gcc Ala 645 | acc Thr | aac Asn | cga Arg | 1972 |
| gag Glu | ctc Leu 650 | tcc Ser | tac Tyr | ctc Leu | ctc Leu | ctc Leu 655 | ttc Phe | tcc Ser | ctg Leu | ctc Leu | tgc Cys 660 | tgc Cys | ttc Phe | tcc Ser | agc Ser | 2020 |
| tcc Ser 665 | ctg Leu | ttc Phe | ttc Phe | atc Ile | ggg Gly 670 | gag Glu | ccc Pro | cag Gln | gac Asp | tgg Trp 675 | acg Thr | tgc Cys | cgc Arg | ctg Leu | cgc Arg 680 | 2068 |
| cag Gln | ccg Pro | gcc Ala | ttt Phe | ggc Gly 685 | atc Ile | agc Ser | ttc Phe | gtg Val | ctc Leu 690 | tgc Cys | atc Ile | tca Ser | tgc Cys | atc Ile 695 | ctg Leu | 2116 |
| gtg Val | aaa Lys | acc Thr | aac Asn 700 | cgt Arg | gtc Val | ctc Leu | ctg Leu | gtg Val 705 | ttt Phe | gag Glu | gcc Ala | aag Lys | atc Ile 710 | ccc Pro | acc Thr | 2164 |
| agc Ser | ttc Phe | cac His 715 | cgc Arg | aag Lys | tgg Trp | tgg Trp | ggg Gly 720 | ctc Leu | aac Asn | ctg Leu | cag Gln | ttc Phe 725 | ctg Leu | ctg Leu | gtt Val | 2212 |
| ttc Phe | ctc Leu 730 | tgc Cys | acc Thr | ttc Phe | atg Met | cag Gln 735 | att Ile | gtc Val | atc Ile | tgt Cys | gtg Val 740 | atc Ile | tgg Trp | ctc Leu | tac Tyr | 2260 |
| acc Thr 745 | gcg Ala | ccc Pro | ccc Pro | tca Ser | agc Ser 750 | tac Tyr | cgc Arg | aac Asn | cag Gln | gag Glu 755 | ctg Leu | gag Glu | gat Asp | gag Glu | atc Ile 760 | 2308 |
| atc Ile | ttc Phe | atc Ile | acg Thr | tgc Cys 765 | cac His | gag Glu | ggc Gly | tcc Ser | ctc Leu 770 | atg Met | gcc Ala | ctg Leu | ggc Gly | ttc Phe 775 | ctg Leu | 2356 |
| atc Ile | ggc Gly | tac Tyr | acc Thr 780 | tgc Cys | ctg Leu | ctg Leu | gct Ala | gcc Ala 785 | atc Ile | tgc Cys | ttc Phe | ttc Phe | ttt Phe 790 | gcc Ala | ttc Phe | 2404 |
| aag Lys | | | aag Lys | | | | | | | | | | | | | 2452 |
| ttc Phe | agc Ser 810 | atg Met | ctc Leu | atc Ile | ttc Phe | ttc Phe 815 | atc Ile | gtc Val | tgg Trp | atc Ile | tcc Ser 820 | ttc Phe | att Ile | cca Pro | gcc Ala | 2500 |
| tat Tyr 825 | | | acc Thr | | | | | | | | | | | | | 2548 |
| atc Ile | ctg Leu | gca Ala | gcc Ala | agc Ser 845 | ttt Phe | ggc Gly | ttg Leu | ctg Leu | gcg Ala 850 | tgc Cys | atc Ile | ttc Phe | ttc Phe | aac Asn 855 | aag Lys | 2596 |
| acc | tac | atc | att | ctc | ttc | aag | cca | tcc | cgc | aac | acc | atc | gag | gag | gtg | 2644 |

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| | | | | | | | | | -3- | | | | | | | |
|-------------------|-------------------|--------------------|-------------------|--------------------|--------------------|-------------------|--------------------|-------------------|--------------------|-------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------|
| Thr | Tyr | Ile | Ile 860 | Leu | Phe | Lys | Pro | Ser 865 | Arg | Asn | Thr | Ile | Glu 870 | Glu | Val | |
| cgt Arg | tgc Cys | agc Ser 875 | acc Thr | gca Ala | cgt Arg | cac His | gct Ala 880 | ttc Phe | aag Lys | gtg Val | gct Ala | gcc Ala 885 | cgg Arg | gcc Ala | acg Thr | 2692 |
| ctg Leu | cgc Arg 890 | cgc Arg | agc Ser | aac Asn | gtc Val | tcc Ser 895 | cgc Arg | aag Lys | cgg Arg | tcc Ser | agc Ser 900 | agc Ser | ctt Leu | gga Gly | ggc Gly | 2740 |
| tcc Ser 905 | acg Thr | gga Gly | tcc Ser | acc Thr | ccc Pro 910 | tcc Ser | tcc Ser | tcc Ser | atc Ile | agc Ser 915 | agc Ser | aag Lys | agc Ser | aac Asn | agc Ser 920 | 2788 |
| | | | | | cag Gln | | | | | | | | | | | 2836 |
| gcc Ala | cta Leu | acc Thr | cag Gln 940 | caa Gln | gag Glu | cag Gln | cag Gln | cag Gln 945 | cag Gln | ccc Pro | ctg Leu | acc Thr | ctc Leu 950 | cca Pro | cag Gln | 2884 |
| cag Gln | caa Gln | cga Arg 955 | tct Ser | cag Gln | cag Gln | cag Gln | ccc Pro 960 | aga Arg | tgc Cys | aag Lys | cag Gln | aag Lys 965 | gtc Val | atc Ile | ttt Phe | 2932 |
| ggc Gly | agc Ser 970 | ggc Gly | acg Thr | gtc Val | acc Thr | ttc Phe 975 | tca Ser | ctg Leu | agc Ser | ttt Phe | gat Asp 980 | gag Glu | cct Pro | cag Gln | aag Lys | 2980 |
| aac Asn 985 | gcc Ala | atg Met | gcc Ala | cac His | agg Arg 990 | aat Asn | tct Ser | acg Thr | cac His | cag Gln 995 | aac Asn | tcc Ser | ctg Leu | Glu | gcc Ala .000 | 3028 |
| cag Gln | aaa Lys | agc Ser | Ser | gat Asp .005 | acg Thr | ctg Leu | acc Thr | Arg | cac His .010 | cag Gln | cca Pro | tta Leu | Leu | ccg Pro .015 | ctg Leu | 3076 |
| | | Gly | | | gac Asp | | Asp | | | | | Glu | | | | 3124 |
| caa Gln | Gly | cct Pro .035 | gtg Val | ggt Gly | gga Gly | Asp | cag Gln .040 | cgg Arg | cca Pro | gag Glu | Val | gag Glu .045 | gac Asp | cct Pro | gaa Glu | 3172 |
| Glu | ttg Leu 050 | tcc Ser | cca Pro | gca Ala | ctt Leu 1 | gta Val 055 | gtg Val | tcc Ser | agt Ser | Ser | cag Gln .060 | agc Ser | ttt Phe | gtc Val | atc Ile | 3220 |
| | | | | Ser | act Thr .070 | | | | Asn | | | | | | | 3262 |
| | | | | | t gg | | | | | | aggt | ttct | tg g | ggto | ccagg | 3322 3361 |
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<210> 2 <211> 1078 <212> PRT <213> Homo sapiens

<220>
<221> PEPTIDE
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<223> Ca-sensing Receptor

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440 435 Cys Ala Asp Ile Lys Lys Val Glu Ala Trp Gln Val Leu Lys His Leu 455 Arg His Leu Asn Phe Thr Asn Asn Met Gly Glu Gln Val Thr Phe Asp 475 470 Glu Cys Gly Asp Leu Val Gly Asn Tyr Ser Ile Ile Asn Trp His Leu 490 485 Ser Pro Glu Asp Gly Ser Ile Val Phe Lys Glu Val Gly Tyr Tyr Asn 505 500 Val Tyr Ala Lys Lys Gly Glu Arg Leu Phe Ile Asn Glu Glu Lys Ile 520 Leu Trp Ser Gly Phe Ser Arg Glu Val Pro Phe Ser Asn Cys Ser Arg 535 Asp Cys Leu Ala Gly Thr Arg Lys Gly Ile Ile Glu Gly Glu Pro Thr 555 550 Cys Cys Phe Glu Cys Val Glu Cys Pro Asp Gly Glu Tyr Ser Asp Glu 570 565 Thr Asp Ala Ser Ala Cys Asn Lys Cys Pro Asp Asp Phe Trp Ser Asn 585 580 Glu Asn His Thr Ser Cys Ile Ala Lys Glu Ile Glu Phe Leu Ser Trp 600 595 Thr Glu Pro Phe Gly Ile Ala Leu Thr Leu Phe Ala Val Leu Gly Ile 615 Phe Leu Thr Ala Phe Val Leu Gly Val Phe Ile Lys Phe Arg Asn Thr 630 635 Pro Ile Val Lys Ala Thr Asn Arg Glu Leu Ser Tyr Leu Leu Leu Phe 650 645 Ser Leu Leu Cys Cys Phe Ser Ser Ser Leu Phe Phe Ile Gly Glu Pro 665 660 Gln Asp Trp Thr Cys Arg Leu Arg Gln Pro Ala Phe Gly Ile Ser Phe 685 680 Val Leu Cys Ile Ser Cys Ile Leu Val Lys Thr Asn Arg Val Leu Leu 700 695 Val Phe Glu Ala Lys Ile Pro Thr Ser Phe His Arg Lys Trp Trp Gly 715 710 Leu Asn Leu Gln Phe Leu Leu Val Phe Leu Cys Thr Phe Met Gln Ile 730 725 Val Ile Cys Val Ile Trp Leu Tyr Thr Ala Pro Pro Ser Ser Tyr Arg 745 750 Asn Gln Glu Leu Glu Asp Glu Ile Ile Phe Ile Thr Cys His Glu Gly 760 765 Ser Leu Met Ala Leu Gly Phe Leu Ile Gly Tyr Thr Cys Leu Leu Ala 775 780 Ala Ile Cys Phe Phe Phe Ala Phe Lys Ser Arg Lys Leu Pro Glu Asn 790 795 Phe Asn Glu Ala Lys Phe Ile Thr Phe Ser Met Leu Ile Phe Phe Ile 810 Val Trp Ile Ser Phe Ile Pro Ala Tyr Ala Ser Thr Tyr Gly Lys Phe 825 830 Val Ser Ala Val Glu Val Ile Ala Ile Leu Ala Ala Ser Phe Gly Leu 840 Leu Ala Cys Ile Phe Phe Asn Lys Thr Tyr Ile Ile Leu Phe Lys Pro 860 855 Ser Arg Asn Thr Ile Glu Glu Val Arg Cys Ser Thr Ala Arg His Ala 875 870 Phe Lys Val Ala Ala Arg Ala Thr Leu Arg Arg Ser Asn Val Ser Arg 890 885 Lys Arg Ser Ser Ser Leu Gly Gly Ser Thr Gly Ser Thr Pro Ser Ser 905 Ser Ile Ser Ser Lys Ser Asn Ser Glu Asp Pro Phe Pro Gln Pro Glu 925 920 Arg Gln Lys Gln Gln Gln Pro Leu Ala Leu Thr Gln Gln Gln Gln

